

Determinants of Contrarian Investment Decision: Moderating Role of Superstitions

Iraj Khalid

PhD Scholar, Department of Business Administration,
Allama Iqbal Open University, Islamabad, Pakistan

Adnan Riaz

(Corresponding Author)

Assistant Professor, Department of Business Administration,
Allama Iqbal Open University, Islamabad, Pakistan
Email: adnan_riaz@aiou.edu.pk

Abstract

Objective The study aims to investigate the effect of need for cognition, financial literacy and investment experience on contrarian investment decision of male and female individual investors with moderating role of superstitions.

Background: The achievement of desired goals through contrarian investment strategy is a complicated process affected by many psychological and demographic factors.

Methodology: The study adopted a cross-sectional design and data was gathered using structured questionnaire. Sample of 387 individual investors of Pakistan Stock Exchange (PSX) was taken into account for data analysis.

Results: The study found that need for cognition and investment experience positively influence contrarian investment decision of male and female investors with moderating role of superstitions. However, direct effect of financial literacy and its interaction effect with superstitions on contrarian decision was insignificant for female investors.

Recommendations: It is recommended that investors should avoid using mental shortcuts and apply their cognitive efforts, experience and financial literacy for improved investment decisions.

Keywords: Contrarian Investment Decision, Financial Literacy, Investment Experience, Need for Cognition, Superstitions

Introduction

In stock market, investors allocate their funds to earn a substantial stream of income (Ahmed et al., 2022). They implement various strategies to get higher possible returns. One of the way investors rationalize their investment by investing in the distressed stocks of the market. Contrarian investors view that down stocks will eventually restore to its original position (Galariotis, 2014). Overreaction of investors made certain stock overpriced or undervalued with respect to their fundamentals. Contrarians find the opportunity of making money out of overreaction and irrational

behavior of other investors (Jagirdar & Gupta, 2023). Contrarian investment decision has drawn significant attention among the researchers because of its attractiveness of superior performance (Munir et al., 2022). The strategy is more profitable in the time of financial crises. Warren Buffett who is among the top 10 world's richest people (Brashers & Frei, 2024) is famous for his contrarian investment style. He invested in downward trending stocks in different spells of financial crises over the years and succeeded in generating remarkable profits.

However, contrarian investment decision is not considerably simple. It requires well thought and conscious assessment of the market information and its instruments (Maknickienė et al., 2021). Investment decision making process is complex and it is influenced by many psychological, demographic, social and cognitive factors (Aftab, 2020). Standard finance theories consider investor as a rational person who maximize his utility by making fair use of resources (Mushinada & Veluri, 2019). Over the time, studies have shown that it is an unrealistic assumption about the human rationality (Seraj et al., 2022). In reality, investors try to simplify decision making by using mental shortcuts and they show irrational behavior in financial market (Tversky & Kahneman, 1974). The limitations of traditional finance theories in explaining the real financial market phenomenon have prompted the emergence of behavioral finance field which seeks to explain cognitive reasoning and psychological processes involved in making investment decisions.

Existing literature have identified the role of demographic (Mushinada & Veluri, 2019; Geetha & Ramesh, 2012), psychological, behavioral and cognitive factors (Ahmad & Wu, 2022; Kartini & Nahda, 2021; Ahmad & Shah, 2020) on investment decision making process. However, no study has yet identified the role of psychological, cognitive and demographic factors specifically on contrarian investment decision of stock market. Therefore, the purpose of this study is to analyze the impact of need for cognition, financial investors and investment experience on contrarian investment decision with moderating role of superstitions in mitigating the contrarian investment choices of individual investors. The study performed a comparative analysis of male and female investors of Pakistan Stock Exchange (PSX) for investigating the phenomenon. The current study is first of its kind that examined these set of relationships with a comparative analysis of male and female investors.

Literature Review

Contrarian Investment Decision and its determinants

Contrarian investment decision is an investment decision making style in which investors go against the market trends (Jonsson et al., 2017). Contrarian investors believe that market will reverse to its original position after overreaction of market investors. They invest in losing stocks with an

intention to earn abnormal profits (De Haan & Kakes, 2011). In stock market, investors often overreact to certain news which makes some securities overpriced from their fundamental value. It has been observed that consistently underperforming stocks eventually outperforms the market (Mun et al., 2001). Contrarian investors look for such opportunities for making profit. However, the contrarian strategy is not simple and risk free. It demands conscious assessment of the securities of the financial market based on fundamental value (Jagirdar & Gupta, 2023) and it needs high competence of investor (Jonsson et al., 2017).

Need for Cognition

Need for cognition is a person's tendency to do mentally demanding tasks (Cacioppo et al., 1984). A person with high need for cognition has increased motivation for performing intellectually complex activities (Yan & Otto, 2020). He is better able to solve complex problems with reasoning and logical approach (Lins de Holanda Coelho et al., 2020). Investors having greater need for cognition are capable to handle their financial actions more rationally than low need for cognition investors. Moreover, self-belief of these investors are also high (Elias & Loomis, 2002). Colling et al. (2022) higher level of need for cognition develop confidence in a person for his views and actions. Rejikumar et al. (2022) found that online consumers with naive cognitive structure have increased tendency to rely on public information and are likely to involve in herd behavior. individuals having simple cognitive schema are unable to search and process complex information set. Investors are also inclined to herd in financial market who have lower capability to analyze and solve complicated mental tasks. They are less likely to involve in opposing behavior from the market (Rejikumar et al., 2022). On the other hand, individuals with low need for cognition takes the conformity pressure from social forces which is reflected in their decisions. (Haugtvedt et al., 1992). They fail to skillfully use their knowledge and information for making judgements (Wu et al., 2014). It is documented that male and female investors varies in terms of making financial decision due to differential information processing approaches and risk preferences. Men are more risk takers than women in selecting their investment portfolio (Estelami, 2020). Following hypotheses were constituted based on the above arguments:

H_{1a}: Need for cognition has positive influence on contrarian investment decision of male investors.

H_{1b}: Need for cognition has positive influence on contrarian investment decision of female investors.

Financial Literacy

Financial literacy is the capability of a person to make sound economic decision and to plan for future economic requirements (Remund, 2010). It encompasses skill, attitude, and knowledge for informed financial

judgments related to investment, financial planning, saving etc. Financial literacy helps individuals in improving financial behavior. An individual with higher financial literacy are better able to resolve economic issues in his life (Khawar & Sarwar, 2021). Substantial difference has been observed to measure the financial literacy amongst studies (Ouachani et al., 2021). Some studies assessed it with single item scale (Mushinada & Veluri, 2019) while others with multiple items scale (Bayar et al., 2020).

A study Kumari (2020) conducted on undergraduate students of Sri Lanka found that financial literacy has positive impact on investment decision. Financial literacy enhances the awareness about the financial products and it helps in improving investor money management skills. Increased financial knowledge and skills results in effective economic planning. Individuals with higher literacy show improved behavior related to their finances. Raut (2020) evaluated that household investors with adequate financial knowledge have a greater propensity to make contrarian investment decision because they develop higher confidence on their abilities. They are likely to invest in losing mutual funds and demonstrates contrarian risky behavior (Jonsson et al., 2017).

H_{2a}: Financial literacy has positive influence on contrarian investment decision of male investors.

H_{2b}: Financial literacy has positive influence on contrarian investment decision of female investors.

Investment Experience

In financial market, investors with varied experience shows distinct behavior. Experience investors select portfolio by applying adequate knowledge and expertise (Kida et al., 2010) They have a greater capability to effectively judge factors relevant to their investment decision. The level of experience positively influences the investment behavior of investors (Senda et al., 2020). Metawa et al. (2018) indicated that investment experience of cryptocurrency investors negatively impacts the herd behavior. Investors with higher investment experience have lower likelihood of making decision on others views and are less affected by general market sentiments. The objectively evaluate different alternatives from the available options. On contrary, inexperienced investors tend to follow other investors perceiving others choices as more rational. They are unable to analyze the prevailing trends of the market. (Shusha & Touny, 2016). Armansyah (2022) studied that investment experience including other demographic factors significantly affects the investor behavior. Novice investors tend to conform to other investors views and select securities accordingly without performing technical or fundamental analysis.

H_{3a}: Investment experience has positive influence on contrarian investment decision of male investors.

H_{3b}: Investment experience has positive influence on contrarian investment decision of female investors.

Moderating Role of Superstitions

Superstitions are the heuristics that individuals used to make decisions. People believe that certain behavior or events brings good or bad fortune for them (Carlson et al., 2009). These are the false beliefs that cannot be explained by logical reasoning. These heuristics are often applied without rational grounding while dealing with uncertain situations in order to avoid cognitive load (Hoffmann et al., 2022). In stock market, investors choose securities with lucky listings and reject those with their unlucky numbers. The use of superstitions in financial market is prevalent in all over the globe. Market participants avoid unlucky events and prefers fortunate events that greatly affects their choice of their financial instruments (Bai et al., 2020).

Individual traders of Taiwan Stock Exchange use numerical fallacies and superstitions. Superstitions negatively affects wise investment decisions and its ultimate performance. Traders who use superstitions make loss because of not judging the market timings accurately. The use of myths and fallacies is reduced as traders gain more experience (Bhattacharya et al., 2018). Dual process theory Kahneman and Frederick (2002) suggests that heuristics and individual irrational behavior contribute to investment decision making process. More often, individuals make decisions under the influence of reflective thinking system which hampers the sound judgment. This also applies to the participants of financial markets as well where people heavily trusted on different heuristics for making decisions quickly.

H_{4a}: Superstitions moderate the association between need for cognition and contrarian investment decision of male investors.

H_{4b}: Superstitions moderate the association between need for cognition and contrarian investment decision of female investors.

H_{5a}: Superstitions moderate the association between financial literacy and contrarian investment decision of male investors.

H_{5b}: Superstitions moderate the association between financial literacy and contrarian investment decision of female investors.

H_{6a}: Superstitions moderate the association between investment experience and contrarian investment decision of male investors.

H_{6b}: Superstitions moderate the association between investment experience and contrarian investment decision of female investors.

Conceptual Framework

After reviewing the previous literature, the study presents the conceptual framework to fill the theoretical gap of existing studies. It is depicted as follows:

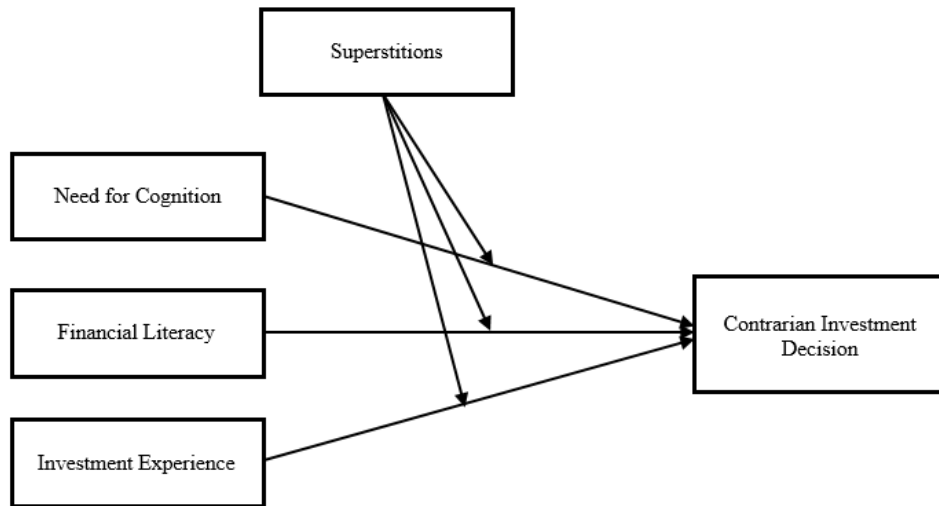


Figure 1 Conceptual Framework

Material and Methods

Research Design

The study used a quantitative research approach with a positivist philosophy. One of the advantage of quantitative study is its generalization characteristics as it provides comprehensive outlook of the entire population (Queirós et al., 2017). The design of a study is cross-sectional as it enables the researcher to analyze data at single point of time.

Data Collection

A survey method was used to collect data from individual investors of PSX. Sukamolson (2007) asserted that deductive approach is more compatible with quantitative method to test social science constructs accompanying with numerical data support. Primary data was considered because it aids in reflecting the views and behavior of investors more accurately. The study employed a stratified sampling method to gather data. Three strata were made based on the locality of investors i.e. Karachi, Lahore and Islamabad. After making strata, questionnaire was then distributed among investors based on random sampling technique. Out of 200 questionnaires distributed in each city, 398 were returned. 11 questionnaires were eliminated because they were not completely filled. A total of 387 questionnaires were finally taken into consideration for proceeding analysis.

Operationalization of Constructs

Contrarian Investment Decision

The scale used to measure constructs were adopted from previous research studies. Contrarian investment decision was measured by single item scale from Jonsson et al. (2017) which does not take into account the market condition. The adopted item is “*Suppose that you have one single*

mutual equity fund: Fund A. During the past 12 months, Fund A has declined in value. What is the likelihood that you would buy additional shares in Fund A?"

Independent Variables

The study used a short 6 item scale developed and validated by Lins de Holanda Coelho et al. (2020). The example include *"I like to have the responsibility of handling a situation that requires a lot of thinking."* The scale was assessed by 5 point likert scale from strongly disagree to strongly agree. Financial literacy was measured by single item taken from Mushinada and Veluri (2019). The measure seek response by simply yes or no answer of a question *"Do you have education/certification in financial market?"* The item regarding investment experience sought to elicit response about the different levels of experience in the stock market. The options include 1-5 years, 6-10 years, 11-15 years and 16 years or above.

Moderating Variables

To assess superstitions 4-item scale was adopted from Carlson et al. (2009). The sample item include *"I do not want to lose things that bring me good luck."* The construct was assessed by 5 point likert scale from not likely at all to highly likely.

Data Analysis Techniques

Data was analyzed with the help of SPSS statistics 25 and SPSS AMOS version 25. The descriptive statistics was generated to get summary of the collected data in terms of means, and standard deviation. Data was separately analyzed for male and female investors to make a clear comparison between two investors group. Correlation among the different variables of the study was examined. Further, structural equation modeling technique was employed to assess the relationship among variables of the study including the direct effect and interaction effect of moderator on dependent variable.

Construct Reliability

The reliability of the multi-item construct measures of the study was assessed through Cronbach α . The Cronbach α value for need for cognition scale was 0.885 on overall sample of 387. Likewise, the reliability of superstitions scale was 0.895. The Cronbach α values greater than 7 indicated that scales items have higher internal consistency and measures were reliable to assess constructs.

Ethical Considerations

Ethical principles for conducting a research was maintained including voluntary participation and confidentiality. The consent of the survey participants was taken prior to filling out questionnaire. The participants were allowed to withdraw at any time during the survey. Moreover, the findings of the research are conveyed in honest way and integrity of data was ensured at each research stage.

Results and Discussion

Frequency Analysis

Table 1

Frequency Analysis

		Male		Female	
Variables		Frequency	Percentage	Frequency	Percentage
Fin_literacy	Yes	145	52.9	68	60.2
	No	129	47.1	45	39.8
Inv_exp	1-5 years	80	29.2	37	32.7
	5-10 years	79	28.8	35	31.0
	11-15 years	67	24.5	21	18.6
	16 years or above	48	17.5	20	17.7
N		274		113	

Fin_literacy = Financial literacy, Inv_exp = Investment experience

Table 1 shows the frequency analysis of male and female individual investors. Out of total sample of 387 investors, 274 were male and 113 were female. It is indicated that male and female investors varies in terms of financial literacy and investment experience.

Descriptive Statistics and Correlation

Table 2 demonstrates the descriptive statistics and correlation among the variables of the study. Correlation helps to determine direction and strength of the association. Results indicate that need for cognition, financial literacy and investment experience is positively related to contrarian investment decision and superstitions is negatively associated. The relationship of need for cognition and superstitions with contrarian investment decision is significant at $p < 0.001$. Whereas, it is insignificant with financial literacy and investment experience for male and female investors.

Table 2

Descriptive Statistics and Correlation –Male

	Variables	Mean	SD	1	2	3	4	5
1	NFC	3.102	0.918	1.000	0.058	.127*	-.596**	.567**
2	Fin_literacy	0.471	0.500	0.058	1.000	0.056	-0.056	0.050
3	Inv_exp	2.303	1.072	.127*	0.056	1.000	-.163**	0.049
4	SP	2.248	0.885	-.596**	-0.056	-.163**	1.000	-.635**
5	CID	3.022	1.359	.567**	0.050	0.049	-.635**	1.000

* $p < 0.05$, ** $p < 0.01$, $N=274$, SP – Superstitions, NFC - Need for cognition, Fin_literacy - Financial literacy, Inv_exp - Investment experience CID – Contrarian investment decision.

Table 2 demonstrates the descriptive statistics and correlation among the variables of the study for sample of male investors. Correlation helps to determine direction and strength of the association. Results indicate that need for cognition, financial literacy and investment experience is positively

related to contrarian investment decision and superstitions is negatively associated. The relationship of need for cognition and superstitions with contrarian investment decision is significant at $p < 0.001$. Whereas, it is insignificant with financial literacy and investment experience.

Table 3

Descriptive Statistics and Correlation –Female

	Variables	Mean	SD	1	2	3	4	5
1	NFC	3.102	0.918	1.000	0.058	.127*	-.596**	.567**
2	Fin_literacy	0.471	0.500	0.058	1.000	0.056	-0.056	0.050
3	Inv_exp	2.303	1.072	.127*	0.056	1.000	-.163**	0.049
4	SP	2.248	0.885	-.596**	-0.056	-.163**	1.000	-.635**
5	CID	3.022	1.359	.567**	0.050	0.049	-.635**	1.000

* $p < 0.05$, ** $p < 0.01$, $N=113$, SP – Superstitions, NFC - Need for cognition, Fin_literacy - Financial literacy, Inv_exp - Investment experience CID – Contrarian investment decision.

Table 3 highlights the descriptive statistics and correlation among the variables of the study for female investors.

Hypotheses Testing

Table 4

Path Analysis: Direct and Moderation

Structural Relationship	B	S.E	C.R	P value
Male Investors				
CID <--- NFC	.467	.079	9.221	***
CID <--- Fin_Literacy	.296	.117	6.962	***
CID <--- Inv_exp	.153	.055	3.598	***
CID <--- SPxNFC	-.196	.019	-4.594	***
CID <--- SPxFin_literacy	-.304	.048	-7.151	***
CID <--- SPxInv_exp	-.262	.015	-6.148	***
Female Investors				
CID <--- NFC	.559	.143	6.406	***
CID <--- Fin_literacy	.077	.187	1.184	.237
CID <--- Inv_exp	.376	.084	5.817	***
CID <--- SPxNFC	-.163	.028	-2.515	**
CID <--- SPxFin_literacy	.006	.057	.090	.928
CID <--- SPxInv_exp	-.286	.024	-4.426	***

$N= 274$ for male investors, $N= 113$ for female investors, ** $p < 0.05$, *** $p < 0.001$, S.E – Standard error, C.R – Critical ratio, SP – Superstitions, NFC - Need for cognition, Fin_literacy - Financial literacy, Inv_exp - Investment experience CID – Contrarian investment decision.

The results of path model were generated through AMOS to test the relationship among variables. Estimates of regression were generated by using maximum likelihood method. Table 4 indicates the direct and indirect path analysis of structural model for male and female investors. Results shown that need for cognition is positively related to contrarian investment decision

of male investors ($\beta = 0.467$, $p < 0.001$). This influence is slightly higher among female investors ($\beta = 0.559$, $p < 0.001$). Based on empirical findings, hypotheses H_{1a} and H_{1b} are approved. Financial literacy ($\beta = 0.296$, $p < 0.001$) and investment experience ($\beta = 0.153$, $p < 0.001$) have positive effect on contrarian decision of male investors. The impact of investment experience is significantly positive ($\beta = 0.376$, $p < 0.001$) whereas the influence of financial literacy is not statistically significant ($\beta = 0.077$, $p = 0.237$) on dependent variable of the study for female investors. The findings successfully support H_{2a} , H_{3a} , and H_{3b} hypotheses. Whereas H_{2b} is rejected.

The findings indicated that amongst male investors, superstitions significantly reduce the positive influence of need for cognition ($\beta = -0.196$, $p < 0.001$), financial literacy ($\beta = -0.304$, $p < 0.001$) and investment experience ($\beta = -0.262$, $p < 0.001$) on contrarian investment decision. the interaction effect of superstitions with each predictor variable is statistically significant. Hence, Hypotheses H_{4a} , H_{5a} and H_{6a} are accepted. The estimates of interaction terms for female investors highlights that moderation effect of superstitions on the relationship between need for cognition and contrarian investment decision is significant and negative ($\beta = -0.163$, $p < 0.001$), proving hypothesis H_{4b} true. However, interaction effect of superstitions and financial literacy on dependent variable of the study for female investors is not significant ($\beta = 0.006$, $p < 0.928$), rejecting our hypothesis H_{5b} . The effect of Interaction between superstitions and investment experience on contrarian decision of female investors is significant and negative ($\beta = -0.286$, $p < 0.001$). Hypothesis H_{6b} is approved. Moreover, R^2 value of structural model for assessing determinants of contrarian decision of male investors is 0.528 and 0.568 for female investors showing the overall significance of the two models.

Discussion

The aim of the study was to examine the impact of need for cognition, financial literacy and investment experience on contrarian investment decision of male and female individual investors and to investigate the moderating role of superstitions on the relationship between explanatory variables and outcome variable of the study. The framework was analyzed based on previous theories and literature and empirical results. Different statistical methods were applied to ascertain the conclusive findings. Need for cognition significantly enhances the contrarian investment decision of both male and female investors. Contrarian decision in financial market requires conscious thinking of investor in order to get benefited from overreaction of other investors. It needs logical and fundamental analysis of the securities to buy financial instruments that are against the market sentiments (Yu et al., 2019) Individuals with high need for cognition have a greater tendency to involve in complex cognitive activities (Wu et al., 2014). Findings asserts that investors with greater need

for cognition are able to search and assess information regarding overvalued or undervalued market instruments more accurately for their investment purpose (Rudolph et al., 2018).

The findings revealed that financial literacy significantly affects contrarian investment decision for male investors. Investors with greater financial literacy are capable to show sound investing behavior. Financial literacy breeds confidence among investors for their investment moves (Raut, 2020). They are likely to take higher risks and opt for contrarian view in the market. Financial literacy also assist investor to better evaluate the information and securities (Suresh, 2024) that are pre-requisite for contrarian investment decision which looks for value investing rather than adopting the majority opinion (Cho et al., 2020). However, the empirical results are insignificant for female investors. Furthermore, the regression findings indicated that investment experience is significantly and positively associated with the investment decision making of investors of male and female investors. Investors with higher level of experience have increased historical insights about the market reaction and have improved competency for rational portfolio choices compared to less experienced investors (Lu et al., 2020). They are capable to judge the price movement and trends more correctly. They have developed the understanding to recognize opportunities of having a contrarian position against the prevailing trends. Therefore, they are likely to buy in losing stocks for earning higher returns in future. The results disclosed that the impact of need for cognition and investment experience on contrarian decision is greater in females than male investors.

Superstitions significantly mitigates the effect of need for cognition, financial literacy and investment experience on contrarian decision amongst male investors. For female individual investors, superstitions reduce the positive impact of need for cognition and investment experience on contrarian decision but it fails to moderates the linkage between financial literacy and contrarian investment decision. Investors with high superstitions fails to objectively assess securities and hence fails to choose opposing risky portfolio. Investors relies on mental shortcuts to make judgments (Tsang, 2004). Investors with greater superstitious behavior identifies some stocks or days lucky or unlucky (Yang, 2016; Torgler, 2007). Consequently, they are unable to make decisions by assessing the actual worth of the instruments and avoid the risky contrarian decision that is pursued after careful evaluation. The findings are in consistent with the dual process theory Kahneman and Frederick (2002) which posits that people relies on mental shortcuts and heuristics to make decisions.

Conclusion

The empirical findings of the study suggest that male and female individual investors of PSX have a slightly different impact of the variable under investigation. Contrarian investment decision of male investors are

substantially affected by need for cognition, financial literacy and investment experience. For female investors, all these hypothesized relationships are significant except the impact of financial literacy on dependent variable. It is found that superstitions decrease the positive impact of direct relationship among variables under investigation for both male and female investors with the exception of the association between financial literacy and contrarian investment decision for female investors. Higher superstitious behavior reflected in the reliance of shortcuts for making investment decision. Investors who use superstitions make decisions without careful valuation of securities and the evaluation of related information. This behavior negatively affects the contrarian behavior due to subjective judgment of investor.

Implications of the Study

The research filled the knowledge gap by providing clear understanding of determinants of contrarian investment decision amongst the two investment group i.e. male and female individual investors with moderating role of superstitions among the underlying relationships. From the practical view. The study will aid the investors to enhance the objective evaluation while making investment decision with cognitive efforts and increased financial literacy. They will also be able to choose sound portfolio by avoiding the heuristics and subjective judgments. Financial advisor and finance consultants can assist their clients by suggesting profitable portfolio and advise them to efficiently capitalize on the market opportunities arising from the market trends.

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